

### **REMARKS**

The present application relates to hybrid maize plant and seed 31R88. Claims 1-42 are currently pending in the present application. Claims 9-11, 13-19, 22-24, 26-32, and 34-40 have been canceled. Claims 43-56 have been added. Applicant respectfully requests consideration of the following remarks.

#### **Detailed Action**

##### ***A. Status of the Application***

Applicant acknowledges the indefiniteness rejection and the art rejection of record of claims 10, 14, 18, 23, 27 and 31 as overcome.

##### ***B. Specification***

Applicant submits the Deposit section has been amended in order to properly include both the hybrid maize plant 31R88 and the inbred parents GE528776 and GE492452 within the Deposit paragraph. The changes do not add new matter as there is literal support for the minor changes on pages 7 in the originally filed specification. The specification has now been amended to correct these minor changes.

In addition, Applicant submits that at least 2,500 seeds of Hybrid 31R88 and inbred parents GE528776 and GE492452 have been deposited with the ATCC. The specification has now been amended to contain the accession number of the deposit, the date of the deposit, a description of the deposited biological material sufficient to specifically identify it and to permit examination and the name and address of the depository. The claims have also been amended to recite the proper ATCC deposit number. Applicant further asserts that the deposits have been made without restriction.

#### **Rejections under 35 U.S.C. § 112, Second Paragraph**

Claims 8, 12-19, 21-32, 39 and 42 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention, as stated in the last Office Action for claims 8, 12-19 and 21-32.

Applicant respectfully traverses this rejection. Applicant wishes to reiterate that it is well known in the art that the hybrid 31R88 does represent elite germplasm produced from the

crossing of inbred parent lines GE528776 and GE492452 for character traits of major importance which will subsequently be used in a breeding population to further those elite traits. Applicant further asserts that it would be understood by one skilled in the art that the claimed maize plant or its parts contain at least 50% of the alleles inherited from the hybrid maize plant 31R88 having been deposited under ATCC Accession No. PTA-4272. In addition, "[W]hen not defined by Applicant in the specification, the words of a claim must be given their plain meaning. In other words, they must be read as they would be interpreted by those of ordinary skill in the art", thereby alleviating this rejection. See *In re Sneed*, 710 F.2d 1544, 218 U.S.P.Q. 385 (Fed. Cir. 1983); See also MPEP § 2111.02. However, in order to expedite prosecution Applicant has canceled claims 9-11, 13-19, 22-24, 26-32, and 34-40, thereby alleviating this rejection to said claims.

The Examiner rejects claim 39 as indefinite for the recitation "31R88 maize plant ...deriving at least 50% of its alleles from 31R88" as confusing.

Applicant has now canceled claim 39, thus alleviating this rejection.

Claim 42 stands rejected as indefinite for failing to further limit claim 41.

Applicant has now amended claim 42 to be rewritten as follows: --A male sterile maize plant produced by the method of claim 41.--, as suggested by the Examiner, alleviating this rejection. Applicant thanks the Examiner for the suggested language.

In light of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

#### **Rejections Under 35 U.S.C. § 112, First Paragraph**

Claims 11, 15, 19, 24, 28, 32, 34 and 38-40 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Examiner states that there is no literal basis in the specification for the 50% allelic derivation language. Further the Examiner states that there is no basis for the double haploid method.

Applicant respectfully traverses this rejection. However, in an effort to expedite prosecution, Applicant has canceled claims 11, 15, 19, 24, 28, 32 and 38-40 and added new claims 43-56, alleviating this rejection. In addition, Applicant has now amended claims 12 and

25 to include --contains one or more transgenes which have been stably integrated therein, said transgenes selected from the group consisting of: a plant disease resistance gene, an insect resistance gene, a herbicide resistance gene, and a male sterility gene--, thereby limiting the claims to the types of transgenes that may be introduced and that are supported by the specification on pages 30-36, as suggested by the Examiner.

Applicant has canceled claims 34 and 40, thereby alleviating this rejection. Applicant respectfully asserts the following regarding double haploid breeding. The specification discusses multiple breeding techniques that may be used according to the invention. The specification at page 3 states "[p]lant breeding techniques known in the art and used and in a maize plant breeding program include, but are not limited to, recurrent selection backcrossing, pedigree breeding, restriction length polymorphism enhanced selection, genetic marker enhanced selection and transformation" (page 3, specification). Double haploid breeding is a technique long known and used in the art of plant breeding. Applicant is attaching herewith Wan *et al.*, "Efficient Production of Doubled Haploid Plants Through Colchicine Treatment of Anther-Derived Maize Callus", *Theoretical and Applied Genetics*, 77:889-892, 1989. This demonstrates that haploid breeding is a long known technique in the art of plant breeding and supports Applicant's assertion that producing double haploids is well known to one ordinarily skilled in the art. It is axiomatic in patent law that a specification "need not teach, and preferably omits, what is well known in the art." See *Spectra-Physics, Inc. v. Coherent, Inc.*, 3 U.S.P.Q.2d 1737, 1743 (Fed. Cir. 1987). Double haploids are produced by the doubling of a set of chromosomes (1N) from a heterozygous plant to produce a completely homozygous individual. This is advantageous because the process can eliminate the generations of selfing needed to obtain a homozygous plant from a heterozygous source. Applicant therefore respectfully requests withdrawal of the above rejections.

Claims 8-19, 21-32 and 34-40 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which is not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention, as stated in the last Office Action for claims 8-19 and 21-32.

Applicant respectfully traverses this rejection. However, in an effort to expedite prosecution, Applicant has canceled claims 9-11, 13-19, 22-24, 26-32, and 34-40 and amended

claims 12 and 25 to include --contains one or more transgenes which have been stably integrated therein, said transgenes selected from the group consisting of: a plant disease resistance gene, an insect resistance gene, a herbicide resistance gene, and a male sterility gene--, as aforementioned.

Applicant wishes to reiterate that under the written description requirement, Applicant should be allowed to claim the progeny of a cross of maize plants crossed with 31R88 with phenotypic characteristics since distinguishing identifying characteristics in the chemical and biotechnological arts, dealing with DNA, are those such as: partial structure, physical and/chemical properties, functional characteristics, known or disclosed correlation between structure and function, method of making, and combinations of the above. In plants, these identifying characteristics are those detectable in the phenotype which are manifested through gene expression. Claims to a particular species of invention are adequately described in the disclosure of relevant identifying characteristics are present in the application. Again, one of ordinary skill in the art is reasonably apprised in knowing that a plant crossed with 31R88 will result in a plant having half of the genetic material of 31R88. A further limitation set by Applicant is that the plants must be capable of expressing a combination of at least two of these phenotypic characteristics of 31R88. Applicant respectfully submits the claims now come within the purview of the written description requirement and request reconsideration.

Claims 8, 12-19, 21, 25-32 and 34-40 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for the reasons stated in the last Office Action for 8, 12-19, 21 and 25-32.

Applicant respectfully traverses this rejection. Applicant herein submits the Deposits section has been amended in order to properly include both the hybrid maize plant 31R88 and the inbred parents GE528776 and GE492452 within the Deposit paragraph on page 38. The changes do not add new matter as there is literal support for the minor changes on page 7 in the originally filed specification. The Specification has now been amended to correct these minor changes. The Applicant further provides assurance that:

a) during the pendency of this application access to the invention will be afforded to the Commissioner upon request;

- b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;
- c) the deposit will be maintained in a public depository for a period of thirty years, or five years after the last request for the enforceable life of the patent, whichever is longer;
- d) a test of the viability of the biological material at the time of deposit will be conducted (see 37 C.F.R. § 1.807); and
- e) the deposit will be replaced if it should ever become inviable.

Therefore, Applicant submits at least 2500 seeds of hybrid maize plant 31R88 and the inbred parents GE528776 and GE492452 have been deposited with the ATCC. In view of this assurance, the rejection under 35 U.S.C. § 112, first paragraph, should be removed. (MPEP § 2411.02). In addition, Applicant submits a patent application "need not teach, and preferably omits, what is well known in the art." *Hybritech Inc. v. Monoclonal Antibodies Inc.*, 802 F.2d 1367, 231 U.S.P.Q. 81 (Fed. Cir. 1986); MPEP § 601. One of ordinary skill in the art of plant breeding would know how to evaluate the traits of two plant varieties to determine if there is no significant difference between the two traits expressed by those varieties. In addition, in an effort to expedite prosecution claims 9-11, 13-19, 22-24, 26-32, and 34-40 have been canceled. For the reasons aforementioned, it is respectfully submitted that Applicants' claims are sufficiently enabled by the specification.

In light of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections to claims 8-19 and 21-40 under 35 U.S.C. § 112, first paragraph.

### Summary

Applicant acknowledges that claims 1-7, 20, 33 and 41 are allowed.

Applicant further acknowledges that claims 1-10, 12-14, 16-18, 20-23, 25-27 and 29-31 are deemed free of the prior art. The Examiner further states the prior art fails to teach or fairly suggest plants which derive 50% or more of their alleles from the exemplified hybrid. This clearly indicates that hybrid maize plant 31R88 as a whole is considered to be distinguishable from the prior art for the purposes of novelty and non-obviousness. Therefore, Applicant respectfully submits that the deposit of the representative seed of 31R88 and inbred parents GE528776 and GE492452 should satisfy the description requirement. In light of the above,

Applicant respectfully submits that the rejections under 35 U.S.C. § 112, first paragraph as improper and requests reconsideration and withdrawal of these rejections.

**Conclusion**

In conclusion, Applicant submits in light of the above amendments and remarks, the claims as amended are in a condition for allowance, and reconsideration is respectfully requested.

This is a request under the provision of 37 CFR § 1.136(a) to extend the period for filing a response in the above-identified application for one month from May 11, 2003 to June 11, 2003. Applicant is a large entity; therefore, please charge Deposit Account number 26-0084 in the amount of \$110.00 for one month to cover the cost of the extension.

Any deficiency or overpayment should be charged or credited to Deposit Account 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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